RESEARCH MEMORANDUM 61-7

Development of Preliminary Screening Measures for Special Forces Trainees

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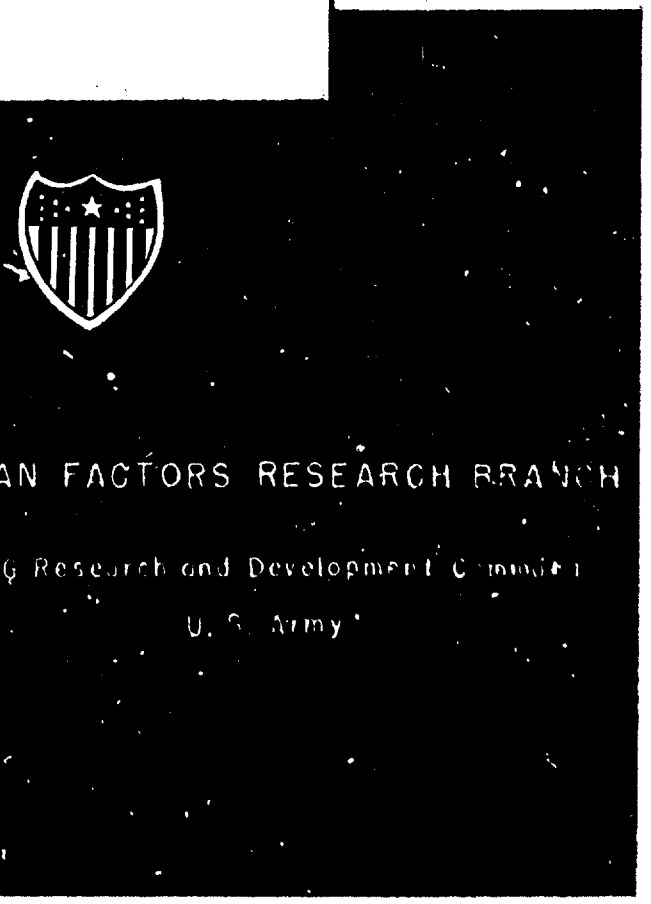

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(6) DEVELOPMENT OF PRELIMINARY SCREENING MEASURES FOR SPECIAL FORCES TRAINEES

(10) Rudolph G. Berkhouse and Kenneth G. Cook

Submitted by

E. Kenneth Karcher, Jr.
Chief, Behavioral Evaluation Research Laboratory

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DEVELOPMENT OF PRELIMINARY SCREENING MEASURES FOR SPECIAL FORCES TRAINEES

BACKGROUND

In view of the need for highly qualified personnel in Special Forces operations, the training program for Special Forces personnel is both lengthy and costly. A substantial reduction in attrition from the training program would result in a more adequate supply of qualified personnel and a significant decrease in training costs. The Chief of Special Warfare has requested that a research program be undertaken to improve the caliber of personnel assigned for Special Forces training.

Through exploratory research involving consultation with experienced personnel, observer participation in training activities, analysis of training programs, and study of pertinent literature, a selection research program was formulated. The initial phase of research resulted in the identification of psychological attributes deemed necessary for success in Special Forces operations. Also, a determination was made that the principal criterion measure for validation purposes should be an individual performance measure reflecting the skills, knowledge, and personal characteristics necessary to carry out Special Forces assignments. (Berkhouse and Cook, 1961)

PURPOSE

The purpose of ~~the~~ present project was to construct, and to select from existing instruments, appropriate measures for inclusion in an experimental Special Forces Selection Battery which would subsequently be subjected to full-scale validation. The exploratory validation analysis conducted in the present study was designed to furnish leads for the selection of tests from a preliminary battery.

PROCEDURES

A study was made of the Army Classification Battery, personality measures such as BIB's, and Form 20 military background factors in order to determine which available measures might be appropriate for inclusion in a preliminary Special Forces Selection Battery. The determination was made on the basis of the following considerations:

1. The similarity of psychological attributes deemed essential for Special Forces work to those which an existing HFRB instrument was designed to measure.

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2. The degree of similarity between the duties carried out by Special Forces personnel and the duties of other MOS for which effective selectors have been developed, with a view toward including such selectors in the battery.

3. Examination of the validity of existing HFRB predictors and their intercorrelations to arrive at a determination of whether one specific predictor could be used to cover several designated psychological attributes or whether separate predictors would be required for each psychological characteristic.

Two new measures were developed for the preliminary battery, the Self-Description Blank SDB-SF and the Following Directions Test FDT-1X. (These are described under Variables.)

SAMPLES

The preliminary Special Forces Selection Battery was administered to representative samples of enlisted applicants meeting the requirements and accepted for Special Forces training. The data were obtained at time of entry into Special Forces training at the Special Warfare Center from early 1957 to early 1958. Criterion data in the form of peer and cadre ratings were obtained after completion of training. One group of the trainees participated in an Army Training Test in March 1958 which was regarded by cadre as providing more opportunity than was usually present for trainees to demonstrate ability to apply what they had been taught. This particular group of men was included in the analysis of the overall sample as well as in a separate analysis on a limited number of variables performed on this group alone.

Sample A. This sample consisted of approximately 120 men who completed an Army Training Test in March of 1958.

Sample B. This sample consisted of approximately 250 men who participated in one or more of various field exercises conducted during Special Forces training, and includes the men in Sample A. (Smaller N's appear in subsequent tables because certain variables were administered to only a limited number of the Sample B cases.)

VARIABLES

Criterion Variable (PT 3767). The performance of the trainees was evaluated on a ten-point rating scale of overall suitability for Special Forces, administered at the completion of training. The trainee's score consisted of the average of all ratings received from peers and/or supervisors. The number of raters for any one trainee varied from five to fourteen.

Predictor Variables.

1. Self-Description Blank, SDB-CA (PT 3359). A noncognitive personality measure containing 210 self-description items determined a priori to be related to suitability for combat.

2. Self-Description Blank, SDB-SF (PT 3387). A noncognitive self-description questionnaire containing 120 biographical data items judged a priori to be related to the psychological requirements of Special Forces assignments. This test was newly developed for the Special Forces battery.

3. Activities Inventory, AI-2 (PT 3294). A noncognitive measure of interests. This test contains 260 self-description, like-dislike items.

4. Classification Inventory, CI-1 (PT 3290). A noncognitive measure of interests and attitudes. Of the total 125 items, 15 are like-indifferent-dislike items concerning occupations, 10 are forced-choice pairs concerning activities and interests, 75 are self-description biographical and attitude items, and 25 are forced-choice items of five alternatives. In 18 items, the examinee must choose the one adjective which best describes him; in the remaining 7, he must choose the adjective which least describes him.

5. General Information Test, GIT-1X (PT 3306).

6. General Information Test, GIT-2X (PT 3307).

The two General Information Tests are alternate forms of a cognitive test designed to reflect interests. Each form consists of 50 four-choice items covering general knowledge of a variety of areas including outdoor activities, athletics, hobbies, military information, etc.

7. Following Directions Test, FDT-1X (PT 3287). This 169-item test was developed specifically for the Special Forces battery and is designed to measure the ability of the examinee to follow several different sets of instructions simultaneously. The examinee is required to respond differentially to several different stimuli given together or in succession; some responses are conditional upon certain stimuli occurring in combination. The basic task of the test is a clerical one. The idea for the test is based on a test previously developed for salesmen-executives.

8. Multiple Reaction Test, MRT 13-1 through MRT 13-11 (PT 3192). This test measures the ability of the examinee to perform a variety of tasks and to adapt to rapidly changing situations and instructions. Printed tasks are interspersed with tasks given by tape recorder; these

include such areas as dial interpretation, code reaction, and attention span. There are eleven a priori keys for scoring this test of 137 items.

9. Army Perceptual Speed Test, APST-2 (PT 2644). This is a cognitive test requiring the examinee to match four groups of sketched objects with the proper four of five sketch groups from which they were taken. There are a total of twelve sets of four items.

10. Related Forms Test, RFT (PT 2855).

This is a cognitive test consisting of 28 groups of three items each. The examinee is required to classify geometrical patterns into two types according to the model pattern for a given group.

Background Variables

1. Verbal Examination (VE) (formerly RV, and designated on the Background Data Form as such)
2. Arithmetic Reasoning Test (AR)
3. Pattern Analysis Test (PA)
4. Mechanical Aptitude Test (MA)
5. Army Clerical Speed Test (ACS)
6. Army Radio Code Aptitude Test (ARC)
7. Shop Mechanics Test (SM)
8. Automotive Information Test (AI)
9. Electrical Information Test (EI)
10. Radio Information Test (RI)
11. Combat A (CO-A), an Aptitude Area composed of AR and PA
12. Combat B (CO-B), an Aptitude Area composed of PA and MA
13. General Technical, (GT), an Aptitude Area composed of VE and AR
14. Driver Battery
15. Specialist Training

16. Ranger Training

17. Arms Qualification

18. Foreign Service

19. Korean Service

20. Age

21. Years of Education

22. Months of Service

23. Physical Fitness

24. Officer Candidate Test (OCT)

25. Height

26. Weight

RESULTS

Table 1 gives the correlation coefficients obtained between the criterion and the predictor variables for Sample A; Table 2 gives the same information for Sample B. The coefficients ranged from .02 to .26 in the positive direction and from -.01 to -.30 in the negative direction. For Sample B, the highest coefficient was obtained for the Multiple Reaction Test. A substantial correlation coefficient was found for the Classification Inventory in both samples.

Table 3 gives the correlation coefficients obtained between the criterion and background variables for Sample B. These coefficients were as high as .47, with Months of Service (.45), Driver Battery (.31), and Physical Fitness (.25) offering greatest promise. The correlation coefficients of .47 for Foreign Service, -.40 for Year of Birth, and .32 for Specialist Training are probably accounted for by the common variance of months in service.

Table 1

MEANS, STANDARD DEVIATIONS, AND VALIDITY COEFFICIENTS OF THE PRELIMINARY SPECIAL FORCES SELECTION BATTERY PREDICTOR VARIABLES

Sample A

Variable	N	Mean	Standard Deviation	Correlation
Classification Inventory	114	122.49	16.70	.26
GIT-1X	133	130.97	14.25	.23
GIT-2X	131	128.14	16.55	.22
Army Perceptual Speed	125	29.20	6.44	.06
Related Forms	124	39.02	12.39	.09

Table 2

MEANS, STANDARD DEVIATIONS, AND VALIDITY COEFFICIENTS OF THE PRELIMINARY SPECIAL FORCES SELECTION BATTERY PREDICTOR VARIABLES

Sample B

Variable	N[a]	Mean	Standard Deviation	Correlation
Classification Inventory	234	121.42	17.29	.23
GIT-1X	251	132.15	15.05	.16
GIT-2X	247	128.26	16.34	.15
Army Perceptual Speed	235	28.29	7.08	.05
Related Forms	231	36.93	11.76	.03
Self Description Blank SDB-Q	254	90.56	18.92	.02
Self Description Blank SDB-SF	252	69.65	8.02	.04
Activities Inventory	244	164.10	16.35	-.01
Following Directions Test	78	45.38	20.86	.12
MRT 13-1	79	25.72	9.80	-.30
MRT 13-2	79	14.71	7.52	-.12
MRT 13-3	77	36.77	12.57	-.27
MRT 13-4	77	30.54	14.02	-.19
MRT 13-5	62	23.52	2.71	-.07
MRT 13-6	62	24.82	3.04	-.12
MRT 13-7	61	10.70	2.67	-.25
MRT 13-8	62	24.06	3.68	-.13
MRT 13-9	62	12.13	2.54	-.14
MRT 13-10	61	11.45	5.13	-.01
MRT 13-11	62	2.94	2.45	-.10

[a] Small N's result from the fact that the variables were administered to only a limited number of cases.

Table 3

MEANS, STANDARD DEVIATIONS, AND VALIDITY COEFFICIENTS OF THE PRELIMINARY SPECIAL FORCES SELECTION BATTERY BACKGROUND VARIABLES

Sample B

Variable	N[a]	Mean	Standard Deviation	Correlation Coefficient
Army Classification Battery				
VE	140	115.70	15.90	.02
AR	140	106.04	13.78	-.01
PA	140	116.20	13.66	.00
MA	140	110.30	15.90	-.02
ACS	140	98.94	15.86	.12
ARC	140	103.82	22.22	.11
SM	140	109.50	15.16	-.04
AI	140	104.32	18.72	-.06
EI	140	106.70	15.64	-.05
RI	140	100.96	15.50	-.02
Combat A	140	112.60	11.82	-.01
Combat B	140	112.56	13.40	-.01
General Technical	140	110.67	12.56	.00
Driver Battery	97	93.75	27.32	.31[b]
Specialist Training	140			.32[b]
Ranger Training	140			.06[b]
Arms Qualification	140			.08[b]
Foreign Service	140			.47[b]
Korean Service	140			.23[b]
Year of Birth	140	31.16	5.51	-.40
Years of Education	140	11.57	1.38	.11
Months of Service	140	76.54	60.70	.45
Physical Fitness	124	295.42	57.46	.25
OCT	68	119.02	8.96	-.02
Height	158	69.16	2.49	-.01
Weight	158	18.58	18.58	.08

[a] Small N's result from the fact that the variables were administered to only a limited number of cases.

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SUMMARY AND CONCLUSIONS

The preliminary Special Forces Selection Battery was administered to incoming Special Forces trainees over a period of approximately one year in an attempt to obtain an indication of the best predictors for inclusion in an experimental battery for subsequent validation. Predictor scores, background data, and criterion data were collected for approximately 250 Special Forces trainees.

The present computations were not completed before the deadline for administration of the Experimental Special Forces Selection Battery. Therefore, it was necessary to make an a priori selection of the battery without benefit of these results. Further attempts to analyze and explain the inconsistencies of the present findings were discontinued.

Of the variables analyzed in the present study, predictor variables 2 through 8 and background variables 1 through 26 were in the Experimental Special Forces Selection Battery.

REFERENCE

Berkhouse, Rudolph G., and Cook, Kenneth G. Development of performance measures of individual proficiency in Special Forces. Research Memorandum 61-6. June 1961.